AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims of the application:

LISTING OF CLAIMS:

Claims 1 to 11. (Cancelled.)

12. (New) A fuel assembly for a pressurized water nuclear reactor, comprising:

fuel rods which are arranged at nodes of a substantially regular network having a polygonal outer contour, the fuel rods containing uranium which is enriched in isotope 235 and not containing any plutonium before the assembly is used in a reactor, wherein the rods are distributed in that least:

a first central group which is constituted by fuel rods which have a first level of nuclear reactivity, and one of rods that contain a neutron contaminant and rods that do not contain a neutron contaminant; and

an outer peripheral layer of fuel rods having one of a level and levels of nuclear reactivity which are strictly less than the first level of nuclear reactivity.

13. (New) The fuel assembly according to claim 12, wherein the rods of the outer peripheral layer are distributed in:

a second group of fuel rods that extend along faces of the outer contour of the network and that have a second level of nuclear reactivity that is strictly less than the first level of nuclear reactivity; and

a third group of fuel rods that are arranged at corners of the outer contour of the network and that have a third level of nuclear reactivity that is strictly less than the second level of nuclear reactivity.

14. (New) The fuel assembly according to claim 13, wherein the second group extends, for each of the faces of the outer contour of the network of fuel

rods, from one corner to another face in question, and in that the third group comprises only the fuel rods that are arranged in the corners of the outer contour of the network of fuel rods.

15. (New) The fuel assembly according to claim 13, wherein the different levels of nuclear reactivity of the fuel rods of the groups are obtained by different masses of uranium 235 in the fuel rods.

16. (New) The fuel assembly according to claim 15, wherein the different levels of nuclear reactivity of the fuel rods of the groups are obtained by the fuel rods having different levels of enrichment in uranium 235.

17. (New) The fuel assembly according to claim 16, wherein the rods of the first group have a first level of enrichment in uranium 235, the rods in the second group have a second level of enrichment in uranium 235 strictly less than the first level of enrichment and the rods of the third group have a third level of enrichment in uranium 235 that is strictly less than the second level of enrichment.

18. (New) The fuel assembly according to claim 17, wherein the second level of enrichment is between .8% and .2%.

19. (New) The fuel assembly according to claim 17, wherein the third level of enrichment is between 1.8% and .6%

20. (New) The fuel assembly according to claim 17, wherein the first level of enrichment is between 3% and 6%.

21. (New) The fuel assembly according to claim 12, wherein the fuel rod network has a square outer contour.

22. (New) A nuclear reactor core, comprising:

at least two fuel assemblies, wherein each of the at least two fuel assemblies comprises: fuel rods which are arranged at nodes of a substantially regular network having a polygonal outer contour, the fuel rods containing uranium which is enriched in isotope 235 and not containing any plutonium before the assembly is used in a reactor, wherein the rods are distributed in that least:

a first central group which is constituted by fuel rods which have a first level of nuclear reactivity, and one of rods that contain a neutron contaminant and rods that do not contain a neutron contaminant; and

an outer peripheral layer of fuel rods having one of a level and levels of nuclear reactivity which are strictly less than the first level of nuclear reactivity.